GENERAL AVIATION PILOT SURVEY

A survey of registered pilots in Arizona was conducted to obtain a profile of:

- Ratings

- Activity levels

- Other measures of aircraft usage

- Aircraft equipage

- Source and use of weather information data

- Assessment of airport facilities

- Assessment of services provided by airport operators and ADOT Aeronautics

The 500-sample survey distribution was segregated by region and further by VFR and IFR ratings based on statistics available from FAA records. Although survey respondents were not asked to provide their names, many did and this information was used to identify the appropriate response region. Otherwise, the postmark on the return envelope provided that indication. A total of 9 responses were unknown as to their origin as they bore neither a respondent address nor a postmark from within Arizona.

Table B-1 summarizes the distribution of the sample size and number of responses. Of the total pilots registered in Arizona, 51.5 percent hold only a VFR rating and 9.3 percent of all pilots are located in the northwest region of the State. Consequently, the VFR-only sample equated to a total of 258 pilots from which a sample size of 24 was selected from the northwest region.

Not all pilots responded to each question and therefore totals do not balance. Averages were calculated for certain questions and these are noted on the consolidated survey forms Exhibit B-1 and B-2 with associated attachments.

Table B-1
PILOT SURVEY SAMPLE DISTRIBUTION

Region	County	VFR-Only Rated Pilots		IFR Rated Pilots	
		Sample	Responses	Sample	Responses
Northwest		24	0	19	6
	Mohave				
	Yavapai				
Northeast		3	1	2	0
	Apache				
	Coconino				
	Navajo				
Southwest		48	14	46	19
	La Paz				
	Pima				
	Yuma				
Valley		166	31	165	48
	Maricopa				
Southeast		17	1	10	3
	Cochise				
	Giles				
	Graham				
	Greenlee				
	Pinal				
	Santa Cruz				
Unknown		--	5	--	3
Total		258	52	242	79

VFR-Only Rated Pilots

Responses to Questions 1 through 6 give a general profile of VFR-only pilots. Nearly all fly single-engine piston aircraft an average about 2.1 hours per flight. Some 86 percent of all the flights are less than 200 nautical miles and nearly all are less than 500 nautical miles. Most pilots are flying to airports in Maricopa, Pima, Yavapai and Yuma counties; however, this factor is influenced by the resultant regional distribution and number of responses. These pilots tend to fly for personal or pleasure flying; about 24 percent use the aircraft for business or for non-recreational purposes.

Responses to questions related to facilities and services at airports most utilized by each respondent are summarized in Attachment B-1. The fact that some airports are listed as having "Excellent" and "Poor" conditions for a particular facility by different respondents highlights the subjective quality of these responses. These survey results may be best used by noting those airports with poor condition assessments and comparing them with facilities considered as excellent. This may then lead to a distinction of those factors or characteristics which pilots associate with a particular standard level.

Question 8, provides insight to the aviation services these pilots require. The responses support a need for low-lead avgas which is consistent with the types of aircraft flown (Question 2) and a strong preference for areas where flight planning activities can be conducted. The latter is demonstrated in the relatively high demand for weather, telephone and flight planning room facilities. Services related to off-airport items such as places of lodging and rental cars to visit area attractions are relatively low in demand. Because 17 or nearly 33 percent of the respondents rent the aircraft they fly (Question 10), those expressing a need for aircraft maintenance service account for about one-half of those responding.

Question 9 provides a summary of aircraft equipage used by VFR-only pilots. The results shown are to be expected for the type rating held and aircraft used. It is interesting to note that 13 or 25 percent of the respondents are using VHF radios of the 360 channel/50kHz spacing and that few upgrades in radio communications are likely in the next five years (Question 10). Also, the survey responses indicate that nearly 37 percent of the aircraft being flown are equipped with a VFR GPS receiver and a comparable percentage are glide slope- and DME-capable.

The series of queries from Questions 12 through 20 relate to the need and use of weather data. Most pilots check weather conditions during 3 time periods – the night before, about 3 to 4 hours before and immediately prior to planned departure. These pilots rely primarily on data available from the FSS/AFSS,

although this is complemented with reports broadcast directly from the National Weather Service. Nearly 62 percent of the pilots take a more direct role in obtaining weather data by accessing DUATS and AWOS/ASOS units. When asked to rate the frequency of update/quality of these data sources, the pilots were most satisfied with the serviced offered by the FSS/AFSS. Other Very Satisfactory ratings were given to DUATS. Satisfactory ratings were more broadly distributed with network television broadcasts most preferred followed by FSS/AFSS briefings. Of those responding to Unsatisfactory sources, broadcast radio appears to be the least favored.

Although AWOS units have been installed at airports since the mid-1980's, and ASOS facilities in more recent years, about 35 percent of the respondents were unfamiliar with this weather data source. Those who are accessing the facilities for pre-flight purposes generally obtain a voice report. About 36 percent of these pilots are utilizing computer/modem units for this purpose. Most pilots seek out departure and destination weather observations reported by the automated units and while en route (Question 19).

These pilots recognize the benefits of AWOS/ASOS facilities for flight-related purposes, but most do not utilize this information to support other activities (Question 18). When queried as to their willingness to pay a user fee to support the establishment and operation of a statewide aviation weather network, the majority of those responding (about 80 percent) were not so disposed. Of those in favor (some 20 percent), user fees ranged as high as $2.00 per call with an average charge value equal to $0.90.

Questions 21 through 24 relate to ADOT, Aeronautics Division services. In particular there appears to be positive reaction to a renewal of the Arizona Aeronautical Chart, interest in publications which address flight safety and describe airport facilities in the State, and the development of an aviation education/seminar geared to pilots.

The matter of State licensing airports and pilots (Question 23) received mixed reaction; however, some pilots expressing a "Not Important" selection used the open comment section (Question 24) to embellish on their perception that the FAA is accomplishing these licensing activities and that State involvement is not necessary.

With regard to Question 24 (open comments), few pilots used this opportunity; however, their comments are noted in Exhibit B-1.

VFR GENERAL AVIATION PILOT SURVEY

1. Indicate your current highest ratings held:

    0 Instrument rating

    52 Private pilot   *11* Airplane single-engine land rating
    0 Commercial pilot   *1* Airplane multi-engine land rating
    0 Airline transport pilot   *0* Rotorcraft rating
                          ____ Other rating (specify) _____

2. What type of aircraft do you typically operate?

    46 Single-engine piston   *0* Single-engine turboprop
    1 Multi-engine piston   *0* Multi-engine turboprop
    0 Turbojet   *0* Rotorcraft

3. How many flights (a roundtrip is considered 2 flights) do you make and how many hours do you fly annually under VFR and IFR regulations?   *Average Values Indicated*

    49 VFR flights   *104* VFR hours
    0 IFR flights   *0* IFR hours

4. What percent of your nonstop flights (stage lengths) are within the following ranges?

    29 local to within 50 nautical miles   *4* 301 to 400 nautical miles
    36 51 to 100 nautical miles   *4* 401 to 500 nautical miles
    19 101 to 200 nautical miles   *0* 501 to 600 nautical miles
    6 201 to 300 nautical miles   *1* greater than 600 nautical miles

5. To which counties in Arizona do you fly and how frequently?   *Average Values Indicated*

County	Number of Annual Trips	County	Number of Annual Trips
Apache	2	Mohave	2
Cochise	3	Navajo	3
Coconino	3	Pima	16
Gila	2	Pinal	4
Graham	4	Santa Cruz	3
La Paz	4	Yavapai	7
Maricopa	16	Yuma	13

And, how frequently do you fly to the following neighboring states?

States	Number of Annual Trips
CA	5
CO	2
NM	2
NV	2
UT	5
Mexico	22

6. For which purposes do you utilize airport facilities? (Check all that apply)

    51 Personal use
    10 Business use
    1 Emergency use (a result of a search & rescue, firefighting, disaster, etc.)
    0 Medical evacuation
    ____ (Other) _____

7. From a pilot's perspective, please rate the public airport facilities that you visit in the State most frequently for the factors listed below and indicate the names of those airports which you rate as Excellent or Poor.

Facility	Names of Airports	
	Excellent	Poor
Runway pavement		
Apron, tiedown area		
Aircraft hangars		
Fuel availability		
Fuel service	*Refer to Attachment B-1 for Summary of Responses*	
Airport lighting		
VASI/PLASI/PAPI		
Airport Navaids		
Terminal facilities		
FBO services		
Airport communications		

8. What aviation services do you require at the airports you use? (Check all that apply)

_50_ Fuel (100LL)	_25_ Weather	_24_ Flight planning room
_0_ Fuel (Jet A)	_17_ Rental car	_37_ Tiedown
_18_ Maintenance (engine)	_1_ Oxygen	_13_ Aircraft rental
_14_ Maintenance (airframe)	_37_ Telephone	_24_ Lounge/waiting area
_15_ Avionics	_7_ Lodging	_2_ Other: _80 Fuel (1)_
		Restaurant (1)

9. What types of radio communications and avionics are installed in the aircraft identified in Question 2 above? (Check all that apply)

_1_ No VHF radio	_18_ Glide slope receiver
_13_ VHF radio (360ch/50kHz)	_21_ DME receiver
_31_ VHF radio (720ch/25kHz)	_8_ Loran-C receiver (VFR-only)
_13_ Dual VHF receivers	_2_ Loran-C receiver (IFR en route)
_1_ Transponder Mode A	_2_ RNAV equipment
_48_ Transponder Mode C	_19_ GPS receiver (VFR-only)
_2_ Transponder Mode S	_0_ GPS receiver (IFR-certified)
_29_ ADF receiver	_1_ Inertial navigation system
_33_ VOR receiver	_0_ Omega navigation system
_18_ Dual VOR receivers	

10. If you own the aircraft described in Question 9 above, what upgrades to your radio communications and avionics are you likely to make in the next 5 years?

_17_ Do not own the aircraft

_11_ No upgrades	_0_ Glide slope receiver
_0_ VHF radio (360ch/50khz)	_0_ DME receiver
_4_ VHF radio (720ch/25khz)	_0_ Loran-C receiver (VFR-only)
_3_ Dual VHF receivers	_0_ Loran-C receiver (IFR en route)
_0_ Transponder Mode A	_0_ RNAV equipment
_0_ Transponder Mode C	_3_ GPS receiver (VFR-only)
_0_ Transponder Mode S	_7_ GPS receiver (IFR-certified)
_0_ ADF receiver	_0_ Inertial navigation system
_0_ VOR receiver	_0_ Omega navigation system
_0_ Dual VOR receivers	

11. In your opinion, which Arizona airports need first-time or additional instrument approaches and, importantly, why? Also indicate the potential type instrument approach to be considered and evaluated for this airport(s):

Most frequently mentioned airports included: Phoenix-Deer Valley needs an ILS (very busy, especially training activity); Sedona should have an instrument approach (treacherous terrain); Phoenix-Goodyear should have an ILS (intensive training).

12. There is a natural tendency to check the weather prior to flight depending on the expected general conditions. Assuming you anticipate generally **VFR** conditions at your departure, destination and alternate airports and along your intended route of flight, how often and when do you check weather conditions? (Check all that apply)

   _3_ Do not check weather if VFR
   _18_ _1.8_ days in advance (indicate number of days)   *Average Value Indicated*
   _32_ The night before
   _28_ _3.2_ hours before departure (indicate number of hours)   *Average Value Indicated*
   _35_ Immediately before departure
   _0_ Other (please specify) _____

13. Assuming that there is or may be expected to be **IFR** weather, how often and when do you check weather conditions in advance of your flight? (Check all that apply)

   _52_ I am not an IFR-rated pilot
   _0_ _–_ days in advance (indicate number of days)   *Average Value Indicated*
   _1_ The night before
   ___ _–_ hours before departure (indicate number of hours)   *Average Value Indicated*
   _3_ Immediately before departure
   _0_ Other (please specify) _____

14. What sources do you use to obtain pre-flight aviation weather and forecast information? (Check all that apply)

   _47_ FSS/AFSS
   _18_ National Weather Service
   _10_ Broadcast radio
   _28_ Television station
   _17_ DUATS
   _15_ AWOS or ASOS
   _0_ Commercial vendor
   _2_ Other (please specify) *Internet (1)   The Weather Channel (1)*

15. How would you rate the frequency of update and quality of service of the aviation weather data you receive from the sources you checked in Question 14 above? Frequency and quality of service are defined as being responsive to your needs for aviation weather data and reports for flight planning.

Source	Very Satisfactory	Satisfactory	Unsatisfactory
FSS/AFSS	31	20	3
NWS	4	13	0
Broadcast radio	1	11	4
Television station	3	23	5
DUATS	12	18	1
AWOS or ASOS	12	11	3
Commercial vendor	2	4	0
Other: *Internet*	1	0	0
Weather Channel	1	0	0

16. When you access an AWOS or ASOS on the ground, do you? (Check all that apply)

   _15_ Am unfamiliar with the AWOS or ASOS equipment
   _18_ Telephone one or more AWOS/ASOS units directly for a voice report
   _6_ Utilize a computer and modem at home or office
   _4_ Utilize a computer and modem at an airport location

17. How do you use AWOS/ASOS facilities in your flight activities? (Check all that apply)

   _17_ Departure airport, latest report
   _21_ Destination airport, latest report
   _5_ Alternate airport, latest report
   _9_ En route airports, latest report
   _5_ All of the above
   _7_ Latest report for other airports near your departure, destination and alternate airports
   _1_ Earlier reports for those airports checked extending back every _____ for _____
       (for example, every 30 minutes for 2 hours)   *Average Value Indicated*

18. Do you access an AWOS or ASOS on the ground or for purposes other than flight planning?

   _9_ Yes   If yes, indicate purposes and how frequently you use service:
   _28_ No   *General weather information; kite flying; conditions during storms*

19. While en route airborne, do you routinely tune in AWOS/ASOS frequencies along your intended route of flight to monitor weather conditions?

   _22_ Yes   _20_ No

20. ADOT, Aeronautics Division is studying the technical and financial feasibility of a statewide real-time aviation weather information system. There is also the likelihood that this data will be linked to the national weather network. Would you be willing to pay a user fee for the establishment and maintenance costs for such a system?

   _9_ Yes   If Yes, indicate a suggested user fee: a user charge of *$0.90* per call
   _35_ No   *Average Value Indicated*

21. Earlier, ADOT, Aeronautics Division published an Arizona Aeronautical Chart. Would you like to see this chart published and distributed (the chart would not be authorized for aeronautical use, but for reference/informational purposes only)?

   _36_ Yes   _5_ No   _10_ No opinion

22. What other services should ADOT, Aeronautics Division develop, pursue and encourage which address aviation needs in Arizona?

   _36_ Guide to AZ airports   _5_ Conferences
   _14_ Monthly Newsletter   _23_ Aviation Education/Seminars – Adult
   _24_ Safety Letter/Accident Briefs   _9_ Aviation Education/Seminars - High School
   _20_ Flying Tips (quarterly)   _2_ Art Contests
   _15_ Fly – In's
   _3_ Other (please specify)   *Fly-In Campgrounds (2); Re-open grapevine for general aviation use airstrip (1)*

23.   Some states regulate/license some aspects of aviation for the purpose of standardizing procedures and/or maintaining a certain level of quality/professionalism. Please indicate your opinion of the importance of ADOT Aeronautics licensing.

	Very Important	Not Important	No Opinion
AZ Pilots Licensed	17	25	8
AZ Airports Licensed	18	14	10
Other (please specify)			

24.   Thank you for participating in this survey. Please use the space below to provide additional comments.

Comments offered by respondents are presented below, in no order of priority. Where the comment is similar to others made, the frequency of similar comments are noted in ( ).

The State of Minnesota offers an aviation weather channel in conjunction with Public Broadcast System television. It is the best weather source I have ever seen in any state.

I am discouraged at the slow growth of recreational airports in Arizona.

ADOT should only be concerned with factors affecting its fiscal requirements for facilities, i.e., airport construction and grant sharing. Brief communication on activities and facilities in the State is a part of this activity.

The FAA has recently dropped promotion of aviation from its mission statement. I feel that ADOT Aeronautics should include this function as a high priority, particularly with respect to children and teenagers. This could best be done with the ultralight, sport aviation (EAA) and soaring elements of general aviation. It is this environment where most pilots started and where future pilots will be born.

25.   The following information request is optional:

Name   _____

Address   _____

              _____

Telephone   _____

Please return this survey form in the pre-addressed and stamped envelope to:

QED
P.O. Box 174
Ridgefield, Connecticut 06877

VFR GENERAL AVIATION PILOT SURVEY

Response to Survey Question 7

This question requested the respondent to identify those airports in Arizona which he/she finds to have Excellent and Poor conditions with respect to one of several facilities. The responses were reviewed and summarized below, in alphabetical order. Those which were listed more frequently are **highlighted** for each category of facility and condition.

EXCELLENT CONDITIONS   **POOR CONDITIONS**

Runway Pavement

Avra Valley, Buckeye, **Chandler**, Coolidge,   Casa Grande, San Manuel
Chandler, **Ernest A. Love**, Flagstaff, **Glendale**,
Kingman, Lake Havasu City, Laughlin/Bullhead,
Mesa-Falcon, Nogales, **Payson**, **Phoenix-
Deer Valley**, Phoenix-Goodyear, **Phoenix Sky
Harbor**, Pinal, **Ryan**, Scottsdale, Sedona,
Stellar, **Tucson**, Williams Gateway, **Yuma**

Taxiway Pavement

Avra Valley, Buckeye, **Chandler**, **Ernest A. Love**,   Buckeye, San Manuel, Sedona,
Flagstaff, Glendale, Kingman, Laughlin/Bullhead,   Stellar
Mesa-Falcon, Nogales, Payson, **Phoenix- Deer
Valley**, **Phoenix-Goodyear**, Phoenix Sky Harbor,
Ryan, **Scottsdale**, Stellar, **Tucson**, Williams Gateway,
Yuma

Apron/Taxiway Area

Avra Valley, **Chandler**, Ernest A. Love, Flagstaff,   Chandler, Ernest A. Love,
Glendale, Laughlin/Bullhead, **Mesa-Falcon**, Nogales,   Gila Bend, San Manuel
Payson, **Ryan**, **Phoenix-Deer Valley**, Phoenix Sky
Harbor, Scottsdale, Sedona, Stellar, **Tucson**,
Williams Gateway, Yuma

Aircraft Hangars

Avra Valley, Buckeye, Chandler, Douglas Municipal,   Avra Valley, Glendale,
Flagstaff, Kingman, Laughlin/Bullhead, **Mesa-Falcon**,   Ernest A. Love, San Manuel,
Nogales, **Phoenix Deer Valley**, Phoenix-Goodyear,   Yuma
Phoenix Sky Harbor, **Ryan**, Scottsdale, Sedona, Stellar,
Tucson, Williams Gateway

Fuel Availability

Avra Valley, Chandler, Ernest A. Love, Glendale,   Phoenix-Goodyear, San Manuel
Flagstaff, Kingman, **Mesa-Falcon**, Nogales, **Phoenix-
Deer Valley**, Phoenix-Goodyear, **Phoenix Sky
Harbor**, Ryan, Scottsdale, Sedona, Stellar, **Tucson**,
Williams Gateway, **Yuma**

Fuel Service

Avra Valley, Chandler, Ernest A. Love, Glendale,   Phoenix-Deer Valley, San Manuel,
Flagstaff, Kingman, Laughlin/Bullhead, Mesa-Falcon,   Stellar
Nogales, Phoenix-Deer Valley, Phoenix-Goodyear,
Phoenix Sky Harbor, **Ryan**, **Scottsdale**, Sedona,
Stellar, **Tucson**, Williams Gateway, **Yuma**

EXCELLENT CONDITIONS	**POOR CONDITIONS**

Airport Lighting

Avra Valley, Casa Grande, Chandler, Ernest A. Love, Flagstaff, Glendale, Laughlin/Bullhead, Mesa-Falcon, Nogales, **Phoenix-Deer Valley**, Phoenix-Goodyear, Phoenix Sky Harbor, Ryan, Scottsdale, Sedona, Stellar, **Tucson**, Williams Gateway, **Yuma**

San Manuel

VASI/PLASI/PAPI

Avra Valley, **Chandler**, Ernest A. Love, Glendale, Laughlin/Bullhead, **Mesa-Falcon**, Nogales, Payson, Phoenix-Deer Valley, **Phoenix Sky Harbor**, Ryan, Scottsdale, Sedona, Stellar, **Tucson**, Williams Gateway, **Yuma**

San Manuel

Airport NAVAIDS

Avra Valley, Chandler, Ernest A. Love, Glendale, Kingman, Laughlin/Bullhead, Mesa-Falcon, Nogales, Phoenix-Deer Valley, **Phoenix Sky Harbor**, Ryan, Scottsdale, Sedona, **Tucson**, Williams Gateway, Yuma

Phoenix-Deer Valley, San Manuel

Terminal Facilities

Avra Valley, **Chandler**, Ernest A. Love, Glendale, Lake Havasu City, **Mesa-Falcon**, Nogales, **Phoenix-Deer Valley**, Phoenix-Goodyear, **Phoenix Sky Harbor**, Ryan, Scottsdale, Sedona, Stellar, **Tucson**, Williams Gateway, Yuma

Ernest A. Love, Ryan, San Manuel

FBO Services

Avra Valley, **Chandler**, Ernest A. Love, Flagstaff, Glendale, Kingman, Laughlin/Bullhead, **Mesa-Falcon**, Nogales, Phoenix-Deer Valley, Phoenix-Goodyear, **Phoenix Sky Harbor**, Ryan, Scottsdale, Sedona, Stellar, **Tucson**, Williams Gateway, Yuma

Ernest A. Love, Mesa-Falcon, Payson, Phoenix-Deer Valley, San Mauel, Sedona

Airport Communications

Avra Valley, **Chandler**, Ernest A. Love, Flagstaff, Glendale, Kingman, Laughlin/Bullhead, Mesa-Falcon, Nogales, **Phoenix-Deer Valley**, Phoenix-Goodyear, **Phoenix Sky Harbor**, Ryan, Scottsdale, Sedona, Stellar, **Tucson**, Williams Gateway, **Yuma**

San Manuel

IFR-Rated Pilots

The survey results based on responses provided by IFR-rated pilots are presented below. Where appropriate, comparisons with those from VFR-only rated pilots are offered to reflect the characteristics and user needs represented by each type of pilot group.

A general profile of the IFR-rated pilots in Arizona responding to the survey (Questions 1 through 6) indicate that a relatively high percentage, 43 percent, have airline transport ratings. This is due to the bases established in Phoenix by America West and Southwest airlines. These pilots also participate in general aviation activities and the majority of their responses reflected such participation. IFR-rated pilots tend to fly a wider range of aircraft types than those pilots with only a VFR rating (Question 2) and their activity levels are higher as well, averaging about 3 hours per VFR flight and nearly 1.8 hours per IFR flight (Question 3). These results also help account for the greater nonstop flight distances flown (Question 4). Travel destinations within and without Arizona for IFR-rated pilots show greater distribution by county than those of VFR-only rated pilots (Question 5) This result is consistent with general activity levels of more trips of longer duration. IFR-rated pilots are more apt to fly for business-related purposes (51 percent) than those pilots with a VFR-only rating.

IFR-rated pilots identified airports with excellent and poor conditions for a range of facilities and services (Question 7) as shown in Attachment B-2. As in the case of VFR-only rated pilots, some airports received both excellent and poor ratings depending on the subjective view of the respondent. Nonetheless, some insight may be gained from the comparison of excellent and poor airports to determine appealing characteristics.

Aviation services required by IFR-rated pilots are quite similar to those indicated by VFR-only rated pilots on a percentage of response basis. Most IFR-rated pilots require fuel (a higher percentage need access to Jet A fuel), weather data, telephone access and an area for flight planning purposes (Question 8).

Aircraft operated by IFR-rated pilots are equipped with a higher level of radio transceivers, transponders and avionics than those used by VFR-only rated pilots. In particular, the IFR-rated pilot operate aircraft equipped with dual VHF receivers, and dual VOR, glide slope, DME and GPS (VFR- and IFR-certified) avionics (Question 9). About the same percentage of IFR-rated and VFR-only rated pilots do not own the aircraft they operate. The remaining owners are, however, more likely to upgrade the radio communications and avionics which are installed in their aircraft. Preferred upgrades are both VFR- and IFR-certified GPS receivers (Question 10).

IFR-rated pilots check weather conditions at about the same rate as VFR-only rated pilots when VFR or IFR conditions are expected. This result appears reasonable given that the severity of IFR conditions in terms of ceilings and visibilities will determine whether the pilot will conduct the flight. As in the case of VFR-only rated pilots, IFR-rated pilots rely on the FSS/AFSS as a primary source of pre-flight weather and forecast conditions (Question 14). However, as opposed to the VFR-only rated pilots, they also are more likely to engage the services of a commercial vendor. An assessment of the quality of service offered by these sources (Question 15) tracks generally with the responses to this question by VFR-only rated pilots. Most find the service offered by the FSS/AFSS to be very satisfactory and are more favorably disposed to that provided by the NWS. Media broadcasts of weather are utilized by IFR-rated pilots and these sources are considered satisfactory in fulfilling operating needs.

IFR-rated pilots are more familiar with and utilize the data from AWOS and ASOS units to a greater extent than VFR-only rated pilots (Question 16). Nonetheless, nearly 23 percent of all IFR pilots were unfamiliar with the equipment. As expected, given the nature of IFR flying, those pilots utilizing AWOS and ASOS facilities obtain data from as many airport locations involving their route of flight as possible (Question 17). Interestingly, IFR-rated pilots make little use of AWOS and ASOS data for non-flight purposes than do VFR-only rated pilots (Question 18). Use of AWOS and ASOS data awhile en route is about evenly mixed and comparable to that expressed by VFR-only rated pilots (Question 19). IFR-rated pilots were more inclined to financially support a statewide real-time aviation weather information system than VFR-only rated pilots, 20 percent versus 17 percent, but they placed a comparable average value to a user fee charge of about $0.92 per call (Question 26).

IFR-rated pilots also support the re-introduction of an Arizona Aeronautical chart and are receptive to receiving other publications related to flight safety (Questions 21 and 22). Yet, the inclination toward ADOT Aeronautics licensing of pilots and airports was not given overriding support (Question 23). These results are comparable to those expressed by VFR-only rated pilots.

Question 24 provides the IFR-rated pilot an opportunity to offer any additional comments. These are summarized in Exhibit B-2.

IFR GENERAL AVIATION PILOT SURVEY

1. Indicate your current highest ratings held:

    79 Instrument rating

    15 Private pilot
    30 Commercial pilot
    34 Airline transport pilot

    42 Airplane single-engine land rating
    50 Airplane multi-engine land rating
    11 Rotorcraft rating
    18 Other rating (specify) *CFI (7) CFII (6) SES (1)*
    FE (1) Glider (3)

2. What type of aircraft do you typically operate?

    46 Single-engine piston
    18 Multi-engine piston
    21 Turbojet

    2 Single-engine turboprop
    8 Multi-engine turboprop
    7 Rotorcraft

3. How many flights (a roundtrip is considered 2 flights) do you make and how many hours do you fly annually under VFR and IFR regulations?　　*Average Values Indicated*

    153 VFR flights
    154 IFR flights

    465 VFR hours
    280 IFR hours

4. What percent of your nonstop flights (stage lengths) are within the following ranges?

    33 local to within 50 nautical miles
    14 51 to 100 nautical miles
    13 101 to 200 nautical miles
    12 201 to 300 nautical miles

    7 301 to 400 nautical miles
    7 401 to 500 nautical miles
    3 501 to 600 nautical miles
    11 greater than 600 nautical miles

5. To which counties in Arizona do you fly and how frequently?　*Average Values Indicated*

County	Number of Annual Trips	County	Number of Annual Trips
Apache	5	Mohave	11
Cochise	56	Navajo	11
Coconino	156	Pima	29
Gila	27	Pinal	33
Graham	15	Santa Cruz	11
La Paz	18	Yavapai	134
Maricopa	144	Yuma	12

And, how frequently do you fly to the following neighboring states?

States	Number of Annual Trips
CA	66
CO	33
NM	46
NV	56
UT	33
Mexico	12

6. For which purposes do you utilize airport facilities? (Check all that apply)

    50 Personal use
    51 Business use
    3 Emergency use (a result of a search & rescue, firefighting, disaster, etc.)
    3 Medical evacuation
    6 (Other) *Training*

7. From a pilot's perspective, please rate the public airport facilities that you visit in the State most frequently for the factors listed below and indicate the names of those airports which you rate as Excellent or Poor.

Facility	Names of Airports	
	Excellent	Poor
Runway pavement		
Apron, tiedown area		
Aircraft hangars		
Fuel availability		
Fuel service	*Refer to Attachment B-2 for Summary of Responses*	
Airport lighting		
VASI/PLASI/PAPI		
Airport Navaids		
Terminal facilities		
FBO services		
Airport communications		

8. What aviation services do you require at the airports you use? (Check all that apply)

_48_	Fuel (100LL)	_41_	Weather	_36_	Flight planning room
_26_	Fuel (Jet A)	_21_	Rental car	_43_	Tiedown
_18_	Maintenance (engine)	_6_	Oxygen	_10_	Aircraft rental
_19_	Maintenance (airframe)	_44_	Telephone	_29_	Lounge/waiting area
_20_	Avionics	_17_	Lodging	_5_	Other: *80/87 Fuel (2)*
					Restaurant (3)

9. What types of radio communications and avionics are installed in the aircraft identified in Question 2 above? (Check all that apply)

_0_	No VHF radio	_70_	Glide slope receiver
_10_	VHF radio (360ch/50kHz)	_63_	DME receiver
_50_	VHF radio (720ch/25kHz)	_14_	Loran-C receiver (VFR-only)
_61_	Dual VHF receivers	_6_	Loran-C receiver (IFR enroute)
_11_	Transponder Mode A	_28_	RNAV equipment
_66_	Transponder Mode C	_28_	GPS receiver (VFR-only)
_7_	Transponder Mode S	_13_	GPS receiver (IFR-certified)
_60_	ADF receiver	_12_	Inertial navigation system
_43_	VOR receiver	_4_	Omega navigation system
_63_	Dual VOR receivers		

10. If you own the aircraft described in Question 9 above, what upgrades to your radio communications and avionics are you likely to make in the next 5 years?

_28_	Do not own the aircraft		
_9_	No upgrades	_0_	Glide slope receiver
_0_	VHF radio (360ch/50khz)	_1_	DME receiver
_0_	VHF radio (720ch/25khz)	_0_	Loran-C receiver (VFR-only)
_0_	Dual VHF receivers	_0_	Loran-C receiver (IFR enroute)
_0_	Transponder Mode A	_0_	RNAV equipment
_0_	Transponder Mode C	_6_	GPS receiver (VFR-only)
_2_	Transponder Mode S	_9_	GPS receiver (IFR-certified)
_0_	ADF receiver	_0_	Inertial navigation system
_1_	VOR receiver	_0_	Omega navigation system
_1_	Dual VOR receivers		

11. In your opinion, which Arizona airports need first-time or additional instrument approaches and, importantly, why? Also indicate the potential type instrument approach to be considered and evaluated for this airport(s):

Most frequently mentioned airports included: Show Low needs ILS (NDB is poor/unreliable; mountainous setting); Sedona (NDB unreliable); Scottsdale should have an ILS (heavy use airport, impact of McDowell Mountains, and possible alternate); Phoenix-Deer Valley needs ILS and GPS (for student training); Phoenix-Goodyear needs GPS or ILS (student training); Mesa-Falcon Field needs an ILS 22 (NDB has poor reception. Other airports mentioned include Lake Havasu City Municipal (GPS), Avi Suquilla (GPS/ILS), Laughlin/Bullhead International (ILS/GPS), Payson (GPS to support search/rescue mission)) and Safford Rgional (GPS for air cargo and based medical evacuation unit).

12. There is a natural tendency to check the weather prior to flight depending on the expected general conditions. Assuming you anticipate generally **VFR** conditions at your departure, destination and alternate airports and along your intended route of flight, how often and when do you check weather conditions? (Check all that apply)

   _6_ Do not check weather if VFR
   _21_ _1.3_ days in advance (indicate number of days)   *Average Value Indicated*
   _29_ The night before
   _49_ _3.5_ hours before departure (indicate number of hours)   *Average Value Indicated*
   _36_ Immediately before departure
   _2_ Other (please specify) _As Required/Necessary_

13. Assuming that there is or may be expected to be **IFR** weather, how often and when do you check weather conditions in advance of your flight? (Check all that apply)

   _0_ I am not an IFR-rated pilot
   _25_ _1.7_ days in advance (indicate number of days)   *Average Value Indicated*
   _37_ The night before
   _53_ _2.7_ hours before departure (indicate number of hours)   *Average Value Indicated*
   _45_ Immediately before departure
   _2_ Other (please specify) _As Necessary_

14. What sources do you use to obtain pre-flight aviation weather and forecast information?
(Check all that apply)

   _59_ FSS/AFSS
   _23_ National Weather Service
   _13_ Broadcast radio
   _34_ Television station
   _34_ DUATS
   _23_ AWOS or ASOS
   _17_ Commercial vendor
   _5_ Other (please specify) _Internet (2)   AOPA Channel (2)   The Weather Channel (2)_

15. How would you rate the frequency of update and quality of service of the aviation weather data you receive from the sources you checked in Question 14 above? Frequency and quality of service are defined as being responsive to your needs for aviation weather data and reports for flight planning.

Source	Very Satisfactory	Satisfactory	Unsatisfactory
FSS/AFSS	41	20	3
NWS	15	13	0
Broadcast radio	3	11	4
Television station	11	23	5
DUATS	18	18	1
AWOS or ASOS	15	11	3
Commercial vendor	12	4	0
Other: _Internet_	1	1	0
AOPA Channel	1	1	0
Weather Channel	1	1	

16. When you access an AWOS or ASOS on the ground, do you? (Check all that apply)

_18_ Am unfamiliar with the AWOS or ASOS equipment
_27_ Telephone one or more AWOS/ASOS units directly for a voice report
_12_ Utilize a computer and modem at home or office
_16_ Utilize a computer and modem at an airport location

17. How do you use AWOS/ASOS facilities in your flight activities? (Check all that apply)

_31_ Departure airport, latest report
_37_ Destination airport, latest report
_18_ Alternate airport, latest report
_23_ En route airports, latest report
_18_ All of the above
_7_ Latest report for other airports near your departure, destination and alternate airports
_1_ Earlier reports for those airports checked extending back every _1 hour_ for _3 hours_
(for example, every 30 minutes for 2 hours)   *Average Value Indicated*

18. Do you access an AWOS or ASOS on the ground or for purposes other than flight planning?

_2_ Yes   If yes, indicate purposes and how frequently you use service:
_52_ No   _As a training aid for students_

19. While en route airborne, do you routinely tune in AWOS/ASOS frequencies along your intended route of flight to monitor weather conditions?

_38_ Yes   _32_ No

20. ADOT, Aeronautics Division is studying the technical and financial feasibility of a statewide real-time aviation weather information system. There is also the likelihood that this data will be linked to the national weather network. Would you be willing to pay a user fee for the establishment and maintenance costs for such a system?

_21_ Yes   If Yes, indicate a suggested user fee: a user charge of _$0.92_ per call
_47_ No   *Average Value Indicated*

21. Earlier, ADOT, Aeronautics Division published an Arizona Aeronautical Chart. Would you like to see this chart published and distributed (the chart would not be authorized for aeronautical use, but for reference/informational purposes only)?

_45_ Yes   _9_ No   _18_ No opinion

22. What other services should ADOT, Aeronautics Division develop, pursue and encourage which address aviation needs in Arizona?

_33_ Guide to AZ airports   _11_ Conferences
_14_ Monthly Newsletter   _30_ Aviation Education/Seminars – Adult
_32_ Safety Letter/Accident Briefs   _14_ Aviation Education/Seminars - High School
_16_ Flying Tips (quarterly)   _0_ Art Contests
_20_ Fly – In's
_5_ Other (please specify) _Recreation Airports, Encourage New Student pilot Training, Hot Weather Operations and Survival, Fly-In Campgrounds and Free Instructor Renewal Clinic_

23. Some states regulate/license some aspects of aviation for the purpose of standardizing procedures and/or maintaining a certain level of quality/professionalism. Please indicate your opinion of the importance of ADOT Aeronautics licensing.

	Very Important	Not Important	No Opinion
AZ Pilots Licensed	13	38	11
AZ Airports Licensed	19	25	1
Other (please specify)			
_____	_____	_____	_____

24. Thank you for participating in this survey. Please use the space below to provide additional comments.

Comments offered by respondents are presented below, in no order of priority. Where the comment is similar to others made, the frequency of similar comments are noted in ( ).

In my experience flying around Arizona, I think most facilities are well maintained. Fill in the ditches along R/W 3L-21R to help traffic flow and reduce potential for incidents.

Need more ILS approaches.

A list of all airports with emergency use capabilities is badly needed.

I am not aware that you can telephone access the AWOS reporting point.

Aviation is already over-regulated by the Feds. No additional State requirements are needed or wanted. Cost of annual State registration is excessive and detrimental to encouraging aircraft ownership. (10)

Thank you for the interest in conducting this survey and the great efforts you put forth to keep the skies safe. (4)

An ILS approach in the northern half of the Phoenix area would be very useful for training purposes. It's hard to stay sharp on IFR techniques in Arizona.

GPS is the answer.

Airports are a zoning problem not a "licensing" situation. The local airports have operational rules that are basically FAA coordinated. The "business" rules are locally developed. The ADOT should review these "rules" and maybe "jaw bone" some municipalities if necessary, but stay out of further regulation.

A single GPS landing system ground station strategically located could provide landing guidance to DVT, GEU and Litchfield as well as Sky Harbor. This should be high on the priority list.

I think that it is unnecessary to build an AWOS/ASOS system in Arizona as low IFR conditions are rare. When I lived in Colorado, I would have paid a user fee to access weather data where there is none now. The only thing that I would like as far as weather information in Arizona is live WX radar that I could access by computer. I would like to see more recreational flying facilities built. With shoreline access to some of the big lakes, nothing fancy, just a runway and tiedown area. I wouldn't even spend the money that they did in Payson, just bulldoze it and it.

I feel for the most part Arizona aviation is adequately supported. While things like real time weather would be nice about 5 to 6 days a year, I don't think the service would be worth the cost. More value could be attained from more telephone accessible ASOS and AWOS facilities, especially in the north and southeast areas of the State.

Possibly change the CTAF at Wickenburg Airport to another not so congested frequency. While airborne around Wickenburg it becomes difficult to give valuable position reports when Buckeye traffic is congesting the radio.

25.   The following information request is optional:

Name   _____

Address   _____

             _____

Telephone   _____

Please return this survey form in the pre-addressed and stamped envelope to:

QED
P.O. Box 174
Ridgefield, Connecticut 06877

IFR GENERAL AVIATION PILOT SURVEY

Response to Survey Question 7

This question requested the respondent to identify those airports in Arizona which he/she finds to have Excellent and Poor conditions with respect to one of several facilities. The responses were reviewed and summarized below, in alphabetical order. Those which were listed more frequently are **highlighted** for each category of facility and condition.

EXCELLENT CONDITIONS

POOR CONDITIONS

Runway Pavement

Avra Valley, Chandler, Douglas Municipal, **Ernest A. Love, Glendale**, Laughlin/Bullhead, Libby AAF/Sierra Vista, Mesa-Falcon, Payson, **Phoenix-Deer Valley, Phoenix-Goodyear, Phoenix Sky Harbor**, Ryan, **Scottsdale, Tucson**, Williams Gateway, **Yuma**

Bagdad, **Casa Grande**, Eloy, Libby AAF/Sierra Vista, **Sedona**, Sells, **Show Low**, Tombstone

Taxiway Pavement

Avra Valley, Chandler, Flagstaff, Glendale, **Libby AAF/Sierra Vista**, Payson, **Phoenix-Deer Valley, Phoenix-Goodyear, Phoenix Sky Harbor**, Ryan, **Scottsdale, Tucson**, Williams Gateway, Yuma

Avi Suquilla, Bisbee-Douglas, **Casa County**, Cochise County, Ernest A. Love, Flagstaff, **Greenlee County**, Laughlin/Bullhead, Libby AAF/ Sierra Vista, Payson, **Sedona, Tombstone**

Apron/Taxiway Area

Avra Valley, Laughlin/Bullhead, Libby AAF/ Sierra Vista, Payson, **Ryan**, Phoenix-Deer Valley, **Phoenix Sky Harbor**, Scottsdale, Sedona, Tucson

Bagdad, Bisbee, Casa Grande, Ernest A. Love, Flagstaff, Grand Canyon National, Greenlee County, Laughlin/Bullhead, Page, Phoenix-Goodyear, Sedona

Aircraft Hangars

Avra Valley, Cottonwood, Douglas Municipal, Flagstaff, Mesa-Falcon, Phoenix Deer Valley, **Phoenix Sky Harbor**, Ryan, **Scottsdale**, Tucson, Wickenburg

Grand Canyon National, Phoenix-Goodyear, Phoenix Sky Harbor, Tucson

Fuel Availability

Avra Valley, Flagstaff, Mesa-Falcon, Phoenix-Deer Valley, Phoenix-Goodyear, **Phoenix Sky Harbor, Ryan**, Scottsdale, **Tucson**, Williams Gateway, Yuma

Gila Bend, Greenlee County

Fuel Service

Avra Valley, Douglas Municipal, Ernest A. Love, Flagstaff, Phoenix-Deer Valley, Phoenix-Goodyear, **Phoenix Sky Harbor, Ryan, Scottsdale**, Tucson, Williams Gateway

Grand Canyon National, Page

EXCELLENT CONDITIONS	POOR CONDITIONS

Airport Lighting

Avi Suquilla, Casa Grande, Flagstaff,
Lake Havasu City, Libby AAF/Sierra Vista,
Mesa-Falcon, Page, **Phoenix-Deer Valley,**
Phoenix-Goodyear, **Phoenix Sky Harbor,**
Ryan, Scottsdale, **Sedona, Tucson**

Winslow

VASI/PLASI/PAPI

Casa Grande, Douglas Municipal, Ernest A. Love,
Payson, **Phoenix Sky Harbor,** Ryan, Scottsdale,
Tucson, Williams Gateway

Bisbee-Douglas, Sedona

Airport NAVAIDS

Casa Grande, Ernest A. Love, Mesa-Falcon,
Phoenix Sky Harbor, Ryan, **Tucson,** Williams
Gateway

Greenlee County, Phoenix-Goodyear, Scottsdale

Terminal Facilities

Avra Valley, Page, Phoenix-Deer Valley, Phoenix-
Goodyear, Phoenix Sky Harbor, Scottsdale, Sedona,
Tucson

Greenlee County, Libby AAF/
Sierra Vista, Ryan

FBO Services

Casa Grande, Ernest A. Love, Lake Havasu City,
Phoenix-Deer Valley, **Phoenix Sky Harbor,** Scottsdale,
Sedona, Tucson

Flagstaff, Grand Canyon National,
Libby AAF/Sierra Vista, Page,
Phoenix-Goodyear, Ryan,
Sedona

Airport Communications

Douglas Municipal, Phoenix-Goodyear, Payson,
Phoenix Sky Harbor, Ryan, Scottsdale, Tucson, Yuma

Avra Valley, Gila Bend,
Mesa-Falcon

Comparison With Other Surveys

The results of the surveys conducted in Arizona may be compared to those reflecting nationwide and the FAA Western-Pacific Region (Arizona, California and Nevada) data, and those obtained from a similar effort prepared by QED for the State of Iowa. These other surveys reflect 1995 conditions. Table B-2 presents a summary comparison of the survey data. The national and Western-Pacific Region data as reported by the FAA in its "General Aviation and Air Taxi Activity and Avionics Survey" is limited for comparison purposes to aircraft equipage. The Iowa survey data addresses both equipage and source and use of aviation weather data.

The results of the comparison indicate that Arizona has higher values of equipage than the national, regional and Iowa indices. This may be attributable, in part, to the three-four year time difference in the survey periods. Yet, the results are interesting given that Arizona generally enjoys a VFR climate during most of the year and 30 airports in its 87-airport system, or some 35 percent, have published instrument approaches. This contrasts with a higher percentage of Iowa pilots expressing an intent to upgrade to GPS-VFR or GPS-IFR receivers than expected in Arizona.

Accessing weather sources and the use of AWOS and ASOS facilities were surveyed in Arizona and Iowa. The results are summarized in Table B-3 for comparison purposes. Although the same measures were surveyed, operating conditions in Iowa with regard to weather data sources and quite different than those currently in Arizona. By 1995, the Iowa Department of Transportation had the Iowa Aviation Weather System (IAWS) operational based on the concept defined earlier by QED. The IAWS included the deployment of 32 AWOS-3 units linked on a real-time basis to a host computer. Users could access individual AWOS units as is common to this equipment, or dial a local telephone number to reach the host computer and receive the data via a computer with modem connection. There is no cost to the user to contact the IAWS host computer. Accordingly, Iowa pilots are more accustomed to obtaining aviation weather through this means than pilots in most other states including Arizona. Comparison of the data in Table B-3 supports this situation. Iowa pilots make more use of AWOS and ASOS network technology than those users in states which do not have similar capabilities. Consequently, the values for Arizona and Iowa might be viewed as a potential "before and after" scenario. Pilots from both states access available AWOS and ASOS data for comparable purposes. And, both groups of pilots share in their minority view , about 25 percent on average, concerning the payment of a user fee to support a statewide real-time aviation weather information system.

Table B-2
SURVEY COMPARISON
COMMUNICATIONS AND AVIONICS

Communications and Avionics	Arizona Pilots Survey (1997) (%)			Iowa Pilots Survey (1995) (%)	FAA Survey Data (1995) (%)		
	VFR	IFR	Total		State of Arizona	Western-Pacific Region	United States
No VHF Radio	1.9	0.0	0.8	3.3	5.0	3.4	5.6
VHF Radio (360/50)	1.9	12.7	17.6	28.5	23.9	22.0	22.7
VHF Radio (720/25)	59.6	96.2	61.8	28.5	53.5	54.0	51.1
Dual VHF Radios	25.0	77.2	56.5	67.6	50.6	50.9	48.1
Transponder Mode A	1.9	13.9	9.2	Not Avl	4.2	5.3	5.8
Transponder Mode C	92.3	83.5	87.0	42.3	64.5	65.9	59.8
Transponder Mode S	3.8	8.9	6.9	3.3	1.6	1.3	1.3
ADF Receiver	55.8	75.9	67.9	62.6	39.2	36.6	40.1
VOR Receiver	63.5	54.4	58.0	33.3	44.7	43.7	41.4
Dual VOR Receivers	34.6	79.7	61.8	54.5	45.7	47.0	43.9
Glide Slope Receiver	34.6	88.6	67.2	58.5	44.4	45.9	42.5
DME Receiver	40.4	79.7	64.1	43.9	34.7	32.6	29.1
Loran-C Receiver (VFR)	15.4	17.7	16.8	43.1	16.9	27.3	27.3
Loran-C Receiver (IFR)	3.8	7.6	6.1	8.1	2.5	1.5	3.3
RNAV Equipment	3.8	35.4	22.9	0.8	8.5	9.0	10.6
GPS Receiver (VFR)	36.5	35.4	35.9	16.3	23.8	24.4	23.3
GPS Receiver (IFR)	0.0	16.5	9.9	Not Avl	2.2	2.2	2.8
Omega Navigation System	0.0	5.1	3.1	5.7	0.0	0.2	0.3
Upgrade to GPS Receiver (VFR)	5.8	7.6	6.9	25.8	Not Avl	Not Avl	Not Avl
Upgrade to GPS Receiver (IFR)	13.5	11.3	12.2	43.8	Not Avl	Not Avl	Not Avl

Table B-3
SURVEY COMPARISON
WEATHER DATA SOURCES AND USE

Source of Weather Data, Ground Access Options and AWOS / ASOS Data Requirements	Arizona Pilots Survey (1997) (%)			Iowa Pilots Survey (1995) (%)	FAA Survey Data (1995) (%)		
	VFR	IFR	Total		State of Arizona	Western-Pacific Region	United States
Source of Weather Data							
FSS / AFSS	90.4	74.7	80.9	91.6	Not Avl	Not Avl	Not Avl
National Weather Service	34.6	29.1	31.3	26.0	Not Avl	Not Avl	Not Avl
Broadcast Radio / Television	73.1	55.7	64.9	74.7	Not Avl	Not Avl	Not Avl
DUATS	32.7	43.0	38.9	37.3	Not Avl	Not Avl	Not Avl
AWOS / ASOS	28.8	29.1	29.0	(IAWS) 42.3	Not Avl	Not Avl	Not Avl
Commercial Vendor	0.0	21.5	13.0	9.6	Not Avl	Not Avl	Not Avl
Internet	1.9	2.5	2.3	Not Avl	Not Avl	Not Avl	Not Avl
Weather Channel	1.9	2.5	2.3	5.0	Not Avl	Not Avl	Not Avl
Ground Access of AWOS / ASOS							
Telephone One or More AWOS / ASOS	34.6	34.2	34.4	81.0	Not Avl	Not Avl	Not Avl
Utilize Computer / Modem at Home / Office	11.5	15.2	13.7	17.0	Not Avl	Not Avl	Not Avl
Utilize Computer / Modem at Airport	7.7	20.2	12.2	41.5	Not Avl	Not Avl	Not Avl
AWOS / ASOS Data Requirements							
Departure Airport	32.7	39.2	36.6	Not Avl	Not Avl	Not Avl	Not Avl
Destination Airport	40.4	46.8	44.3	Not Avl	Not Avl	Not Avl	Not Avl
Alternate Airport	9.6	22.8	17.6	Not Avl	Not Avl	Not Avl	Not Avl
En Route	17.3	29.1	24.4	Not Avl	Not Avl	Not Avl	Not Avl
All of the Above	9.6	22.8	17.6	Not Avl	Not Avl	Not Avl	Not Avl
Future AWOS Network							
Support of AWOS Network User Fee	17.3	26.6	22.9	26.5	Not Avl	Not Avl	Not Avl